

REMARKS/ARGUMENTS

These remarks are made in response to the Office Action of July 24, 2007 (Office Action). As this response is timely filed within the 3-month shortened statutory period, no fee is believed due. However, the Examiner is expressly authorized to charge any deficiencies to Deposit Account No. 50-0951.

In the Office Action, Claims 1-3, 5-9, 11-15, 17, and 18 were rejected on the grounds of double patenting. A Terminal Disclaimer is being filed concurrently herewith to overcome this rejection. Claims 1, 2, 4-8, 10-14, and 16-18 were rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent 7,222,075 to Petrushin (hereinafter Petrushin). Claims 3, 9, and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Petrushin in view of U.S. Patent 6,904,264 to Frantz (hereinafter Frantz).

Amendments to the Claims

Although Applicants respectfully disagree with the rejections asserted in the Office Action based on the cited references, Applicants nonetheless have amended the claims so as to expedite prosecution by further emphasizing certain aspects in the claims. Applicants respectfully assert, however, that the amendments should not be interpreted as the surrender of any subject matter. Applicants are not conceding by these amendments that any previously submitted claims are not patentable over the references of record. Applicants' present claim amendments are only submitted for purposes of facilitating expeditious prosecution of the present Application. Accordingly, Applicants reserve the right to pursue any previously submitted claims in one or more continuation and/or divisional patent applications.

In this response, Applicants have amended the claims to emphasize certain aspects of the claims. In particular, Claims 1, 7, and 13 have been amended to substantially

include the limitations of claims 3, 9, and 15, respectively. Claims 3, 9, and 15 have been cancelled. Furthermore, Claims 2, 5, 6, 8, 11, 12, 14, and 16-18 have been amended to maintain consistency among the claims. Additionally, new Claims 19-21 are presented in this amendment. The amendments and new claims are fully supported throughout the Specification. (See, e.g., para. [0025]-[0029], [0032].) No new subject matter has been introduced by these amendments.

Aspects of the Claims

Prior to discussing the cited references, it may be useful to discuss certain aspects of the claims. The claims recite methods and systems for providing a subscriber with a speaker's biometric information during a telephone call established over a PSTN network between at least one speaker and the subscriber. An exemplary method, as typified by Claim 1, can include the step of receiving a full bandwidth PSTN audio stream transmitted over the PSTN, where the audio stream includes a plurality of voice signals of the speaker. The method can also include determining biometric information from the voice signals of the speaker. The method can further include identifying inaudible portions in the PSTN audio stream using a psychoacoustic model and modifying the PSTN audio stream to include the biometric information. In particular, the biometric information can be included in the PSTN audio stream by encoding the biometric information and replacing the identified inaudible portions of the PSTN audio stream with the encoded information. Finally, the method can include transmitting the modified PSTN audio stream to the subscriber over the PSTN.

In some embodiments, as recited in new Claims 19-21, when the subscriber is engaged in a PSTN call with multiple speakers, the subscriber can select which one of the speakers' voice signals to analyze.

The Claims Define Over the Cited References

As previously noted, Claims 1, 7, and 13 have been amended to substantially include the limitations of claims 3, 9, and 15, respectively. In the Office Action, Claims 3, 9, and 15 were rejected as being unpatentable over Petrushin in view of Frantz. Petrushin discloses a system and method for detecting emotional states using voice signal analysis. Frantz is cited for disclosing digital transmission techniques. Applicants respectfully submit, however, that Claims 1, 7, and 13, as amended, define over the cited references.

In particular, Frantz fails to disclose the step of embedding the biometric information in the inaudible portions of a full bandwidth audio stream, where the inaudible portions are identified using a psychoacoustic model. According to the Office Action, the use of compression techniques allows an audio signal to be encoded permitting significant conservation of a given bandwidth. Although Applicants agree that audio compression techniques are available and do provide conservation of a given bandwidth for other uses, Applicants respectfully submit that in view of the amendments to the claims, the rejection under Frantz is now moot.

The cited portions of Frantz are directed to a discussion of existing methods and systems for transmitting audio programs using digital broadcast techniques that utilize the existing analog bandwidth. Therefore, Frantz does not disclose embedding all information into a single audio stream. Rather, the audio signal to be digitally transmitted in Frantz is compressed in order to allow its transmission over a first portion or channel in the available bandwidth for the broadcaster. The remaining portion of the bandwidth can then be used as a second, separate data channel in which other digital information can be simultaneously transmitted.

Although the signals can be simultaneously transmitted via a single stream of packets, one of ordinary skill in the art would recognize that such signals still comprise multiple streams and not a single audio stream. In digital transmissions, multiple data streams are combined into single packets using a statistical multiplexing technique. That is, the bandwidth for the IP packet is divided among the various data streams according to each stream's requirements, and thus separate portions of the packet are always reserved for each separate data stream. Therefore, even though Frantz permits a voice stream to be compressed to reduce the amount of bandwidth required for the voice stream, Frantz would also inherently require that the digitally transmitted packets include multiple fixed bandwidth streams. Therefore, according to Frantz, and as applied to Petrushin, at least two fixed and separate streams of data would always be transmitted, one for voice and another for the biometric data. Nowhere does Frantz disclose or suggest identifying inaudible portions of the full bandwidth audio stream and inserting the data as inaudible content within a full bandwidth audio stream. Furthermore, as acknowledged in the Office Action, such a limitation is not disclosed in Petrushin.

In contrast, the claims recite the limitation that the voice stream is analyzed and text data is embedded within the single uncompressed or full bandwidth voice stream, in portions that would normally be used to deliver inaudible portions of speech. Thus, the original voice stream is not compressed to generate a voice stream without the inaudible portions. Instead, the psychoacoustic model is used to analyze the voice stream and identify portions of the voice stream which can be modified prior to transmission to include inaudible signal representing the biometric information. Therefore, the full bandwidth of the PSTN call can be used to deliver the voice signal and biometric data without having to compress the audio stream to make room for a separate data stream. Such a configuration is advantageous because the subscriber can receive the biometric

information over a standard PSTN connection, without the need to be connected to the call via a digital telephony interface.

Accordingly, Petrushin and Frantz, alone or in combination with any other reference of record, fail to teach or suggest every limitation of independent Claims 1, 7, and 13. Therefore, Applicants respectfully submit that the independent claims define over the references of record. Furthermore, whereas each of the remaining claims depends from one of Claim 1, 7, or 13 while reciting additional features, the remaining dependent claims likewise define over the references of record.

CONCLUSION

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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